

09/942,342

FILE 'HOME' ENTERED AT 14:40:48 ON 04 NOV 2002

=> file reg
COST IN U.S. DOLLARS
FULL ESTIMATED COST

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 14:41:03 ON 04 NOV 2002
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STRUCTURE FILE UPDATES: 3 NOV 2002 HIGHEST RN 469858-87-5
DICTIONARY FILE UPDATES: 3 NOV 2002 HIGHEST RN 469858-87-5

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

*** YOU HAVE NEW MAIL ***

=>
Uploading 09942342.str

L1 STRUCTURE uploaded

=> d l1
L1 HAS NO ANSWERS
L1 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

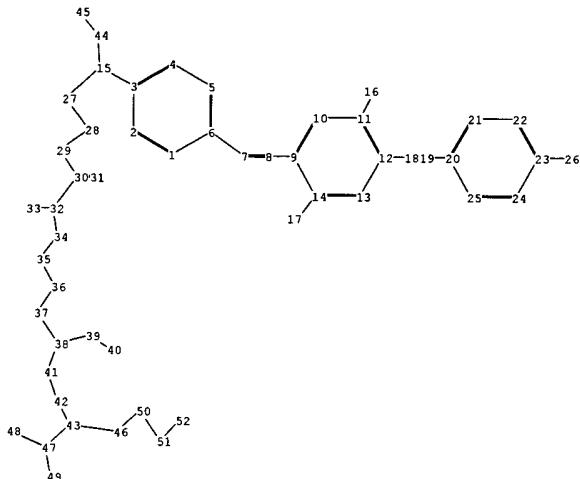
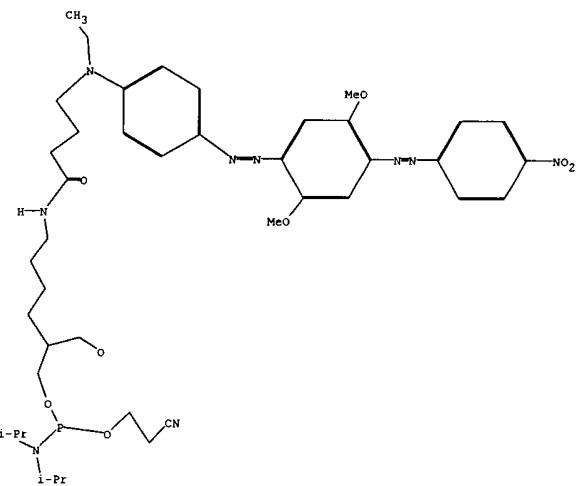
Structure attributes must be viewed using STN Express query preparation.

=> s l1 full
FULL SEARCH INITIATED 14:41:35 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 2 TO ITERATE

100.0% PROCESSED 2 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

L2 0 SEA SSS FUL L1

=>

**chain nodes :**

7 8 15 16 17 18 19 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41
 42 43 44 45 46 47 48 49 50 51 52

ring nodes :

1 2 3 4 5 6 9 10 11 12 13 14 20 21 22 23 24 25

chain bonds :

3-15 6-7 7-8 8-9 11-16 12-18 14-17 15-27 15-44 18-19 19-20 23-26 27-28 28-29
 29-30 30-31 30-32 32-33 32-34 34-35 35-36 36-37 37-38 38-39 38-41 39-40 41-42
 42-43 43-46 43-47 44-45 46-50 47-48 47-49 50-51 51-52

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 9-10 9-14 10-11 11-12 12-13 13-14 20-21 20-25 21-22
 22-23 23-24 24-25

exact/norm bonds :

3-15 6-7 7-8 8-9 12-18 15-27 15-44 18-19 19-20 30-31 30-32 32-34 39-40 41-42
 42-43 43-46 43-47 46-50

exact bonds :

11-16 14-17 23-26 27-28 28-29 29-30 32-33 34-35 35-36 36-37 37-38 38-39 38-41
 44-45 47-48 47-49 50-51 51-52

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 9-10 9-14 10-11 11-12 12-13 13-14 20-21 20-25 21-22
 22-23 23-24 24-25

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:Atom 10:Atom
 11:Atom 12:Atom 13:Atom 14:Atom 15:CLASS 16:CLASS 17:CLASS 18:CLASS 19:CLASS
 20:Atom 21:Atom 22:Atom 23:Atom 24:Atom 25:Atom 26:CLASS 27:CLASS 28:CLASS
 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS 36:CLASS 37:CLASS
 38:CLASS 39:CLASS 40:CLASS 41:CLASS 42:CLASS 43:CLASS 44:CLASS 45:CLASS 46:CLASS
 47:CLASS 48:CLASS 49:CLASS 50:CLASS 51:CLASS 52:CLASS

FILE 'HOME' ENTERED AT 14:40:48 ON 04 NOV 2002

FILE 'REGISTRY' ENTERED AT 14:41:03 ON 04 NOV 2002
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 3 NOV 2002 HIGHEST RN 469858-87-5
DICTIONARY FILE UPDATES: 3 NOV 2002 HIGHEST RN 469858-87-5

TSCA INFORMATION NOW CURRENT THROUGH MAY 20 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

*** YOU HAVE NEW MAIL. ***

```
=> Uploading 09942342.str
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H1 STRUCTURE: UNLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY AVAILABLE WITH OFFLINE DRAW

Structure attributes must be viewed using STM-5.

=> s 11 full
FULL SEARCH INITIATED 14:41:35 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 2 TO ITERATE

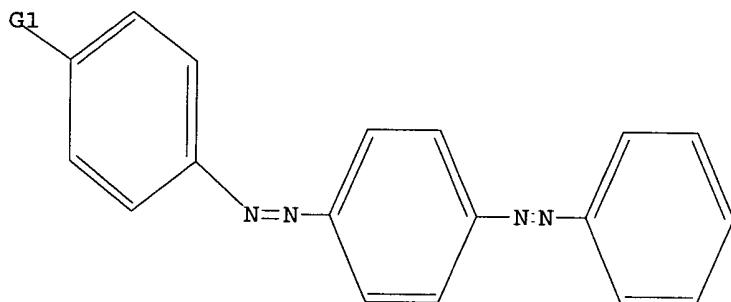
100.0% PROCESSED 2 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

12 0 SEA SSS FII 11

=>
Uploading 09942342.str

I.3 STRUCTURE UPLOADED

L3 HAS NO ANSWERS
L3 STR



G1 C,N

Structure attributes must be viewed using STN Express query preparation.

=> s l3 full
FULL SEARCH INITIATED 14:46:52 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 40254 TO ITERATE

100.0% PROCESSED 40254 ITERATIONS 9211 ANSWERS
SEARCH TIME: 00.00.04

L4 9211 SEA SSS FUL L3

=> file caplus	COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST		283.60	283.81

FILE "CAPLUS" ENTERED AT 14:47:20 ON 04 NOV 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE COVERS 1907 - 4 Nov 2002 VOL 137 ISS 19
FILE LAST UPDATED: 3 Nov 2002 (20021103/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

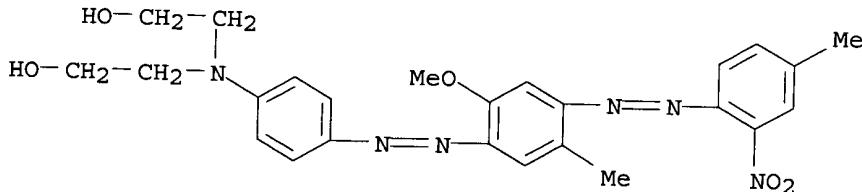
=> s 14
L5 2919 L4

=> s 15 and fluorescence quencher
256026 FLUORESCENCE
5175 QUENCHER
291 FLUORESCENCE QUENCHER
(FLUORESCENCE (W) QUENCHER)
L6 0 L5 AND FLUORESCENCE QUENCHER

=> s 15 and fluorescence
256026 FLUORESCENCE
L7 15 L5 AND FLUORESCENCE

=> d 17 bib abs hitstr 1-15

L7 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2002 ACS
AN 2002:373423 CAPLUS
DN 137:58223
TI Intramolecular Dimers: A New Strategy to **Fluorescence** Quenching
in Dual-Labeled Oligonucleotide Probes
AU Johansson, Mary Katherine; Fidder, Henk; Dick, Daren; Cook, Ronald M.
CS Biosearch Technologies, Novato, CA, 94949, USA
SO Journal of the American Chemical Society (2002), 124(24), 6950-6956
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
AB Many genomics assays use profluorescent oligonucleotide probes that are covalently labeled at the 5' end with a fluorophore and at the 3' end with a quencher. It is generally accepted that quenching in such probes without a stem structure occurs through Forster resonance energy transfer (FRET or FET) and that the fluorophore and quencher should be chosen to maximize their spectral overlap. We have studied two dual-labeled probes with two different fluorophores, the same sequence and quencher, and with no stem structure: 5'Cy3.5-.beta.-actin-3'BHQ1 and 5'FAM-.beta.-actin-3'BHQ1. Anal. of their absorption spectra, relative **fluorescence** quantum yields, and **fluorescence** lifetimes shows that static quenching occurs in both of these dual-labeled probes and that it is the dominant quenching mechanism in the Cy3.5-BHQ1 probe. Absorption spectra are consistent with the formation of an excitonic dimer, an intramol. heterodimer between the Cy3.5 fluorophore and the BHQ1 quencher.
IT 374591-92-1D, BHQ 1, conjugates with Cy3.5- and fluorescein-labeled oligonucleotides
RL: PRP (Properties)
(**fluorescence** quenching by intramol. dimer formation in dual-labeled oligonucleotide probes)
RN 374591-92-1 CAPLUS
CN Ethanol, 2,2'-[[4-[[2-methoxy-5-methyl-4-[(4-methyl-2-nitrophenyl)azo]phenyl]azo]phenyl]imino]bis- (9CI) (CA INDEX NAME)



RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2002 ACS
AN 2001:833569 CAPLUS
DN 135:368945

TI Synthesis and methods for dark quencher probes for donor-acceptor energy transfer

IN Cook, Ronald M.; Lyttle, Matt; Dick, Daren

PA Biosearch Technologies, Inc., USA

SO PCT Int. Appl., 95 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 2001086001 A1 20011115 WO 2001-US15082 20010508

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRAI US 2000-567863 A 20000509

OS MARPAT 135:368945

AB The invention concerns a family of quenchers of excited state energy that are substantially non-fluorescent, termed "Black Hole Quenchers" (BHQS). The quenchers of the invention remedy many of the deficiencies of currently utilized dark quenchers, probes assembled using these quenchers and methods using such quenchers and probes. Further, the dark quenchers are functionalized to allow their rapid attachment to probe that can be engineered to have a desired light absorption profile. The provision of this class of dark quenchers represents a substantial improvement in the design of probes incorporating dark quenchers and methods using such probes. Also provided are methods of using the BHQS, synthesis of such probes incorporating the BHQS and methods of using the probes.

IT 374591-92-1DP, conjugates with nucleotides 374591-95-4P

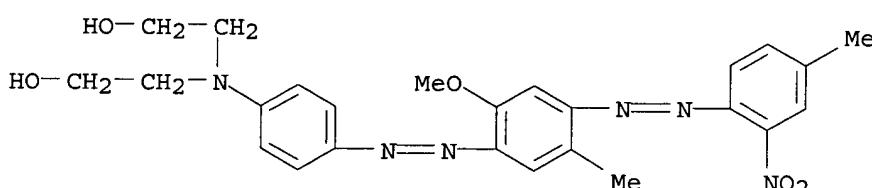
374591-96-5DP, conjugates with nucleotides 374591-99-8P

RL: ARG (Analytical reagent use); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); PROC (Process); USES (Uses)

(Synthesis and methods for dark quencher probes for donor-acceptor energy transfer)

RN 374591-92-1 CAPLUS

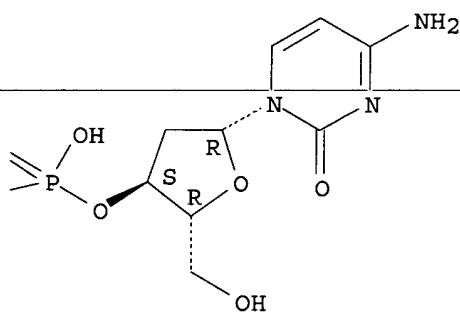
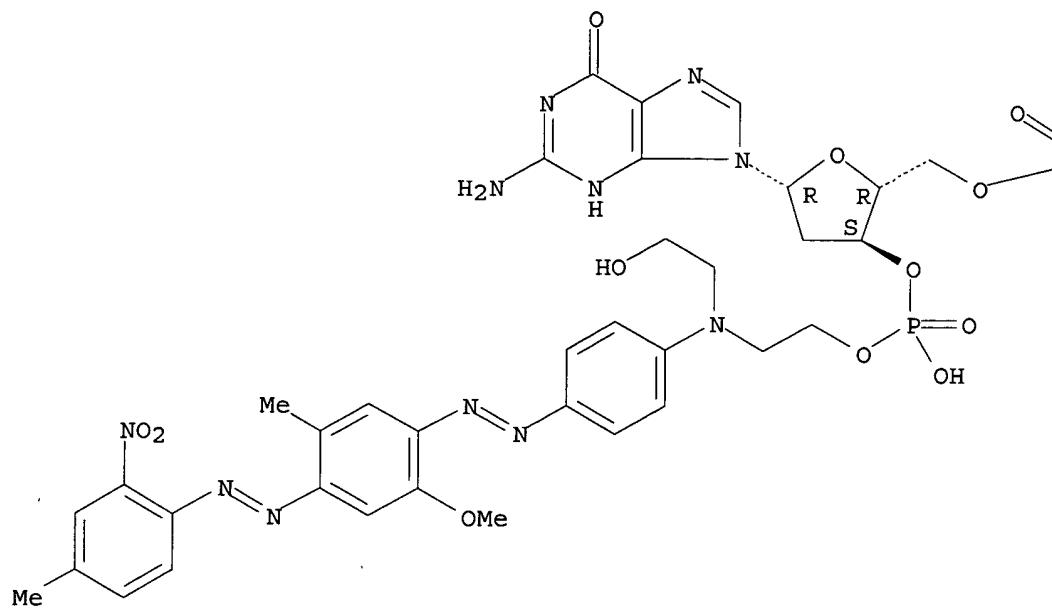
CN Ethanol, 2,2'-[[4-[[2-methoxy-5-methyl-4-[(4-methyl-2-nitrophenyl)azo]phenyl]azo]phenyl]imino]bis- (9CI) (CA INDEX NAME)



RN 374591-95-4 CAPLUS

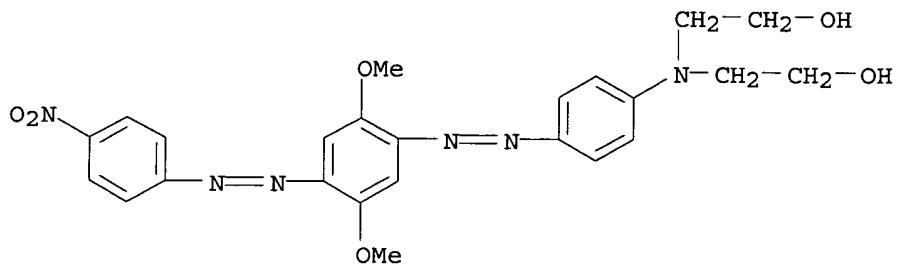
CN 3'-Guanylic acid, 2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-, 3'-[2-[(2-hydroxyethyl)[4-[[2-methoxy-5-methyl-4-[(4-methyl-2-nitrophenyl)azo]phenyl]azo]phenyl]amino]ethyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



RN 374591-96-5 CAPLUS

CN Ethanol, 2,2'-[[4- [[2,5-dimethoxy-4- [(4-nitrophenyl)azo]phenyl]azo]phenyl] imino]bis- (9CI) (CA INDEX NAME)



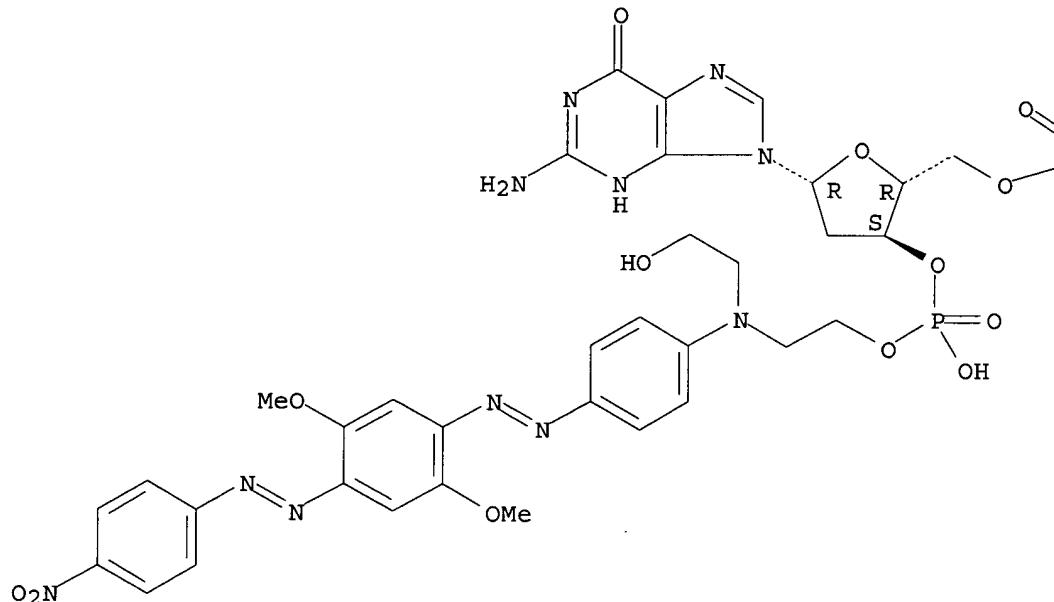
RN 374591-99-8 CAPLUS

CN 3'-Guanylic acid, 2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-, 3'-[2-[[4- [[2,5-dimethoxy-4- [(4-nitrophenyl)azo]phenyl]azo]phenyl] (2-

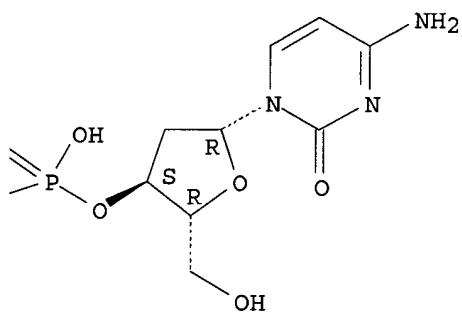
hydroxyethyl)amino]ethyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

PAGE 1-A



PAGE 1-B



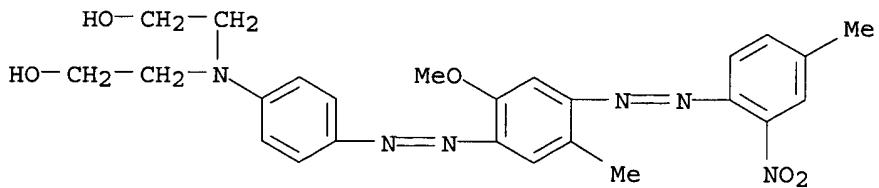
IT 374591-92-1P 374591-93-2P 374591-94-3P
374591-96-5P 374591-97-6P 374591-98-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(Synthesis and methods for dark quencher probes for donor-acceptor energy transfer)

RN 374591-92-1 CAPLUS

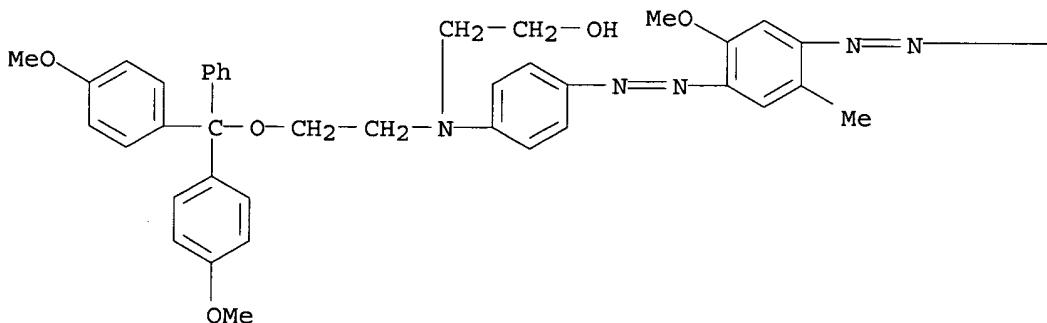
CN Ethanol, 2,2'-[[4-[[2-methoxy-5-methyl-4-[(4-methyl-2-nitrophenyl)azo]phenyl]azo]phenyl]imino]bis- (9CI) (CA INDEX NAME)



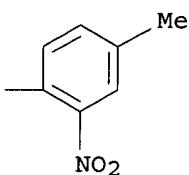
RN 374591-93-2 CAPLUS

CN Ethanol, 2-[[2-[bis(4-methoxyphenyl)phenylmethoxy]ethyl] [4-[[2-methoxy-5-methyl-4-[(4-methyl-2-nitrophenyl)azo]phenyl]azo]phenyl]amino] - (9CI) (CA INDEX NAME)

PAGE 1-A

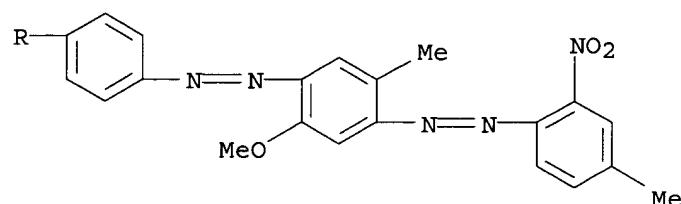
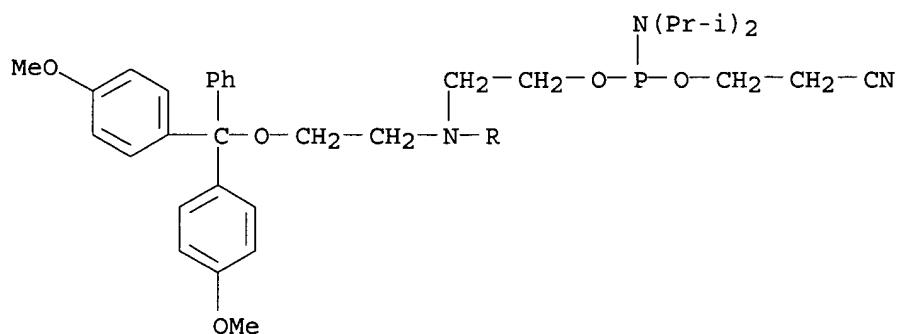


PAGE 1-B

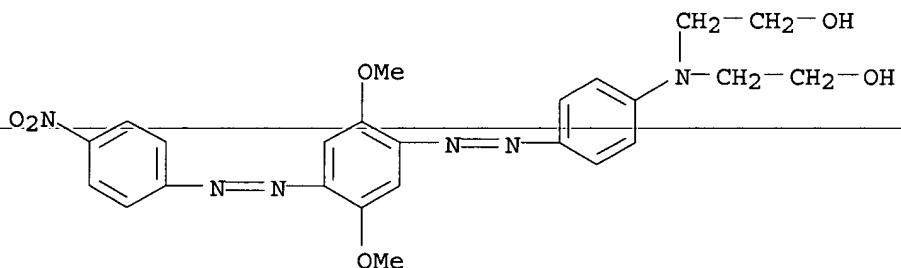


RN 374591-94-3 CAPLUS

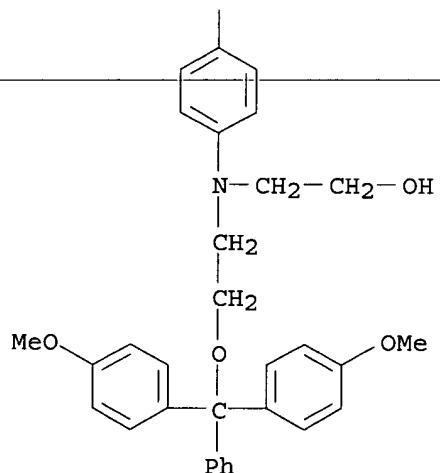
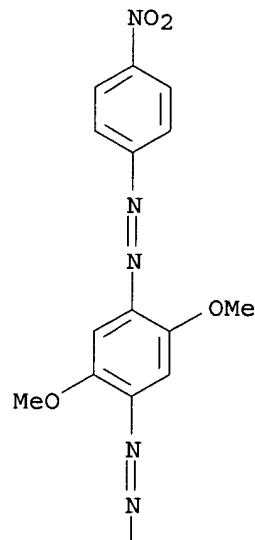
CN Phosphoramidous acid, bis(1-methylethyl)-, 2-[[2-[bis(4-methoxyphenyl)phenylmethoxy]ethyl] [4-[[2-methoxy-5-methyl-4-[(4-methyl-2-nitrophenyl)azo]phenyl]azo]phenyl]amino]ethyl 2-cyanoethyl ester (9CI) (CA INDEX NAME)



RN 374591-96-5 CAPLUS
 CN Ethanol, 2,2'-[[4-[[2,5-dimethoxy-4-[(4-nitrophenyl)azo]phenyl]azo]phenyl]imino]bis- (9CI) (CA INDEX NAME)

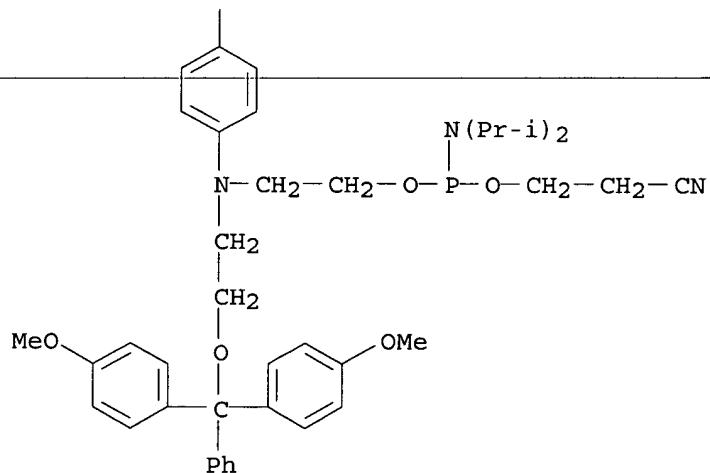
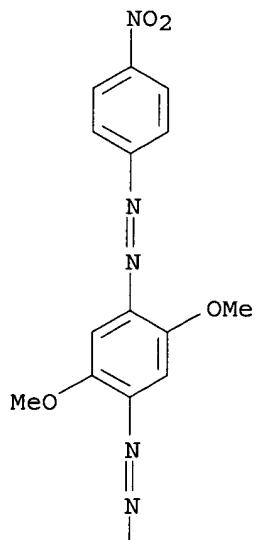


RN 374591-97-6 CAPLUS
 CN Ethanol, 2-[[2-[bis(4-methoxyphenyl)phenylmethoxy]ethyl][4-[[2,5-dimethoxy-4-[(4-nitrophenyl)azo]phenyl]azo]phenyl]amino]- (9CI) (CA INDEX NAME)



RN 374591-98-7 CAPLUS

CN Phosphoramidous acid, bis(1-methylethyl)-, 2-[[2-[bis(4-methoxyphenyl)phenylmethoxy]ethyl][4-[[2,5-dimethoxy-4-[(4-nitrophenyl)azo]phenyl]azo]phenyl]amino]ethyl 2-cyanoethyl ester (9CI)
(CA INDEX NAME)

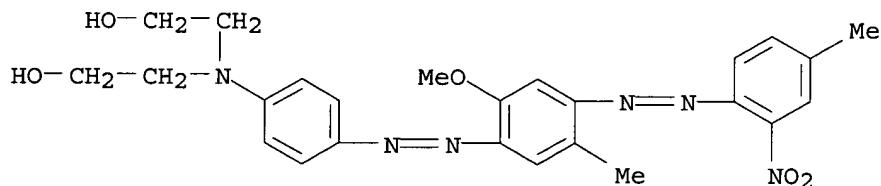


RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

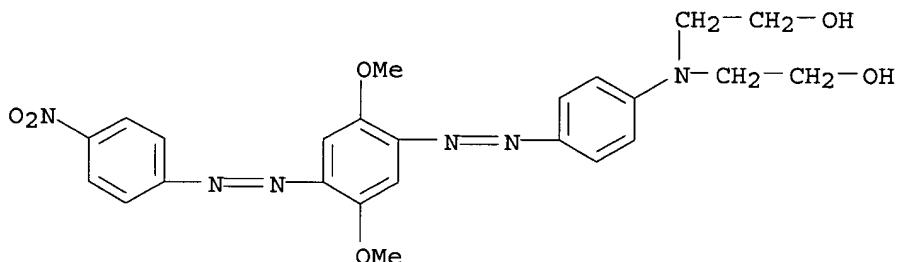
L7 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2002 ACS
 AN 2001:592662 CAPLUS
 DN 136:227417
 TI Use of dark-quenched FRET probes in real-time PCR
 AU Chou, Quin; Gregory, Sara; Mandyam, Rangu; Brotski, Chris; Cabradilla, Cy.
 CS BioSource International, Inc., Camarillo, CA, 93012, USA
 SO American Biotechnology Laboratory (2001), 19(8), 34
 CODEN: ABLAEY; ISSN: 0749-3223
 PB International Scientific Communications, Inc.
 DT Journal
 LA English

AB FRET (fluorescence resonance energy transfer) probes are random-coiled oligonucleotides contg. a reporter at the 5' end and a quencher at the 3' end. Quenching of the FRET probe is achieved by spectral overlap. The use of Black Hole Quencher (BHQ) -labeled FRET probes in real-time polymerase chain reaction (PCR) was evaluated. For S/N measurement, each FRET probe was formulated with a 5' a reporter (FAM) and a 3' quencher (TAMRA, DABCYL, BHQ 1, or BHQ 2). FRET probes were digested with DNase at room temp. for 1 h, and the fluorescence intensities were measured using the LS-50B PCR detection system. The 5'-FAM FRET probe with BHQ 1 at the 3'-end gave the best S/N among the different quenchers evaluated, and TAMRA was the least effective quencher. BHQ-labeled FRET probes could reliably detect target as low as 100 copies, and provide higher sensitivity than TAMRA-labeled probes. They also worked well even under suboptimal PCR conditions.

IT 374591-92-1, Black Hole Quencher 1 374591-96-5, BHQ 2
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(fluorescent label; use of dark-quenched FRET probes in real-time PCR)
RN 374591-92-1 CAPLUS
CN Ethanol, 2,2' - [[4- [[2-methoxy-5-methyl-4- [(4-methyl-2-nitrophenyl)azo]phenyl]azolphenyl]imino]bis- (9CI) (CA INDEX NAME)



RN 374591-96-5 CAPLUS
CN Ethanol, 2,2' - [[4- [[2,5-dimethoxy-4- [(4-nitrophenyl)azo]phenyl]azolphenyl]imino]bis- (9CI) (CA INDEX NAME)



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2002 ACS
AN 2000:320293 CAPLUS
DN 133:157538
TI Direct blue dye solutions: photo-properties
AU Isak, S. J.; Eyring, E. M.; Spikes, J. D.; Meekins, P. A.
CS Department of Chemistry, University of Utah, Salt Lake City, UT, 84112,
USA
SO Journal of Photochemistry and Photobiology, A: Chemistry (2000), 134(1-2),
77-85
CODEN: JPPCEJ; ISSN: 1010-6030
PB Elsevier Science S.A.
DT Journal

LA English

AB Weakly fluorescing azo dyes can be used as photothermal sensitizing agents in the photodynamic therapy (PDT) of some forms of cancer and other diseases. A desirable property of such dye is that it will dissipate most of its excitation energy by nonradiative decay processes rather than by fluorescence or energy transfer to dioxygen. The max. absorption wavelengths, the fluorescence quantum yields .PHI.F, the mean fluorescence wavelengths, and threshold dye concns. below which .PHI.F does not decrease with rising dye concns. are reported for nine azo dyes that appear to have the correct optical properties for application as photothermal sensitizing agents.

IT 4399-55-7, Direct blue 71

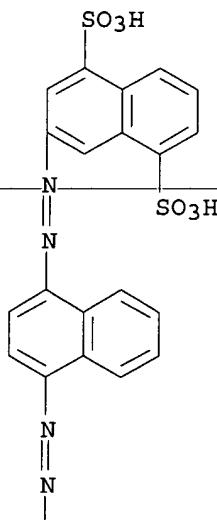
RL: PRP (Properties)

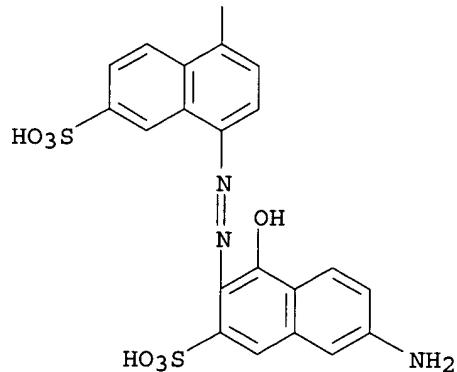
(photophys. properties of azo dyes for application as photothermal sensitizers for photodynamic therapy)

RN 4399-55-7 CAPLUS

CN 1,5-Naphthalenedisulfonic acid, 3-[[4-[[4-[(6-amino-1-hydroxy-3-sulfo-2-naphthalenyl)azo]-6-sulfo-1-naphthalenyl]azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



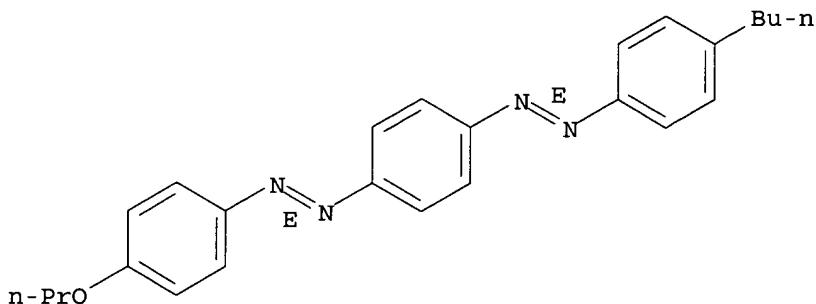


● 4 Na

RE.CNT 88 THERE ARE 88 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2002 ACS
 AN 1999:423907 CAPLUS
 DN 131:177279
 TI Fluorescent liquid crystal color display using a guest-host UV shutter and phosphor layers on the inside of the cell
 AU Yamaguchi, Rumiko; Kishida, Junya; Ugai, Yasuhiro; Izumi, Tukasa; Sato, Susumu
 CS Department of Electrical and Electronic Engineering, Akita University, Akita, 010-8502, Japan
 SO Japanese Journal of Applied Physics, Part 2: Letters (1999), 38(6A/B), L652-L654
 CODEN: JAPLD8; ISSN: 0021-4922
 PB Japanese Journal of Applied Physics
 DT Journal
 LA English
 AB Fluorescent liq. crystal displays (LCDs) have been demonstrated using a guest-host (GH) LC UV shutter cell. Red, green and blue inorg. phosphor lines were manufd. on a glass substrate and an indium-tin-oxide electrode was coated on a phosphor layer. The GH LC cell was composed of this substrate and the phosphor layer was inside of the cell, as well as the color filter used in the current LCD. A UV light emitting diode or a UV fluorescent lamp was used as an excitation source and the switching properties of the **fluorescence** intensity and their contrast ratio were measured and discussed.
 IT 80156-87-2, G-207
 RL: DEV (Device component use); USES (Uses)
 (liq. crystal color display using guest-host UV shutter and phosphor layers on inside of cell)
 RN 80156-87-2 CAPLUS
 CN Diazene, [4-[(1E)- (4-butylphenyl) azo]phenyl] (4-propoxyphenyl)-, (1E)- (9CI) (CA INDEX NAME)

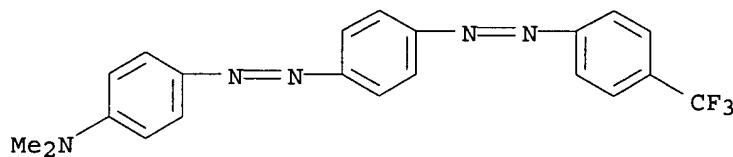
Double bond geometry as shown.



RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

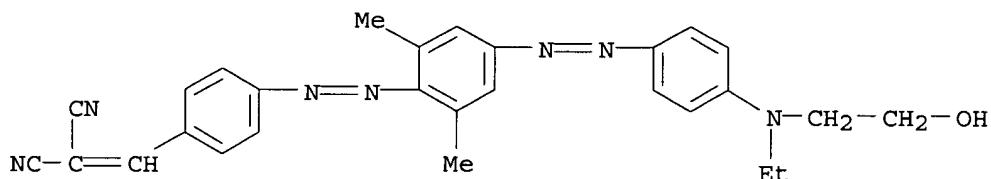
L7 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2002 ACS
 AN 1999:243015 CAPLUS
 DN 131:32371
 TI New chromophores and polymers for second order nonlinear optics
 AU Schrader, Sigurd; Prescher, Dietrich; Zauls, Vismants
 CS Institut fur Physik, Lehrstuhl Physik Kondensierter Materie, Universitat
 Potsdam, Potsdam, D-14469, Germany
 SO Proceedings of SPIE-The International Society for Optical Engineering
 (1998), 3474(Second-Order Organic Nonlinear Optics), 160-171
 CODEN: PSISDG; ISSN: 0277-786X
 PB SPIE-The International Society for Optical Engineering
 DT Journal
 LA English
 AB Linear conjugated, fluorine-contg. chromophores were prep., which have a lower linear refractive index, however, the second order nonlinear optical susceptibility of asym. substituted fluorine-contg. dyes is as high as that of Disperse Red I and similar chromophores. These observations are supported by measurements of solvatochromy of absorption and fluorescence spectra, electroabsorption, and quantum chem. calcns.
 of azomethine and azo dyes. The chem. constitution of the conjugated part of the chromophores has an important effect on linear and nonlinear optical properties. Azomethine dyes show a blue shifted absorption in comparison to the absorption of azo chromophores, along with lower off-resonant second order susceptibility. Introduction of fluorine into the acceptor part of the mol. by attaching a CF₃-group does not lead to a significantly lower second order susceptibility in comparison to non-fluorinated chromophores. Perfluorination of the acceptor part results in an increased second order susceptibility as compared to the non-fluorinated chromophore. Polymers which contain these chromophores were prep. by phys. doping or by covalent bonding of the dyes to the polymeric main chain. For phys. doped polymers, thermally stable allylic polymers and poly(Ph quinoxaline)s (PPQs) were used as matrix. These polymers are miscible with the chromophores up to high concns. (<15%) and are characterized by glass transition temps. of 140-180.degree. (allylic polymers) and 180-350.degree. (PPQs), depending on chem. structure and dye concn. Polymers which contain the active chromophores in side chains were prep. from maleic acid anhydride or as novolak epoxy amine adducts. The former can be utilized for prepn. of waveguides by Langmuir-Blodgett-(LB)-technique while the latter provide films of excellent quality by spin-coating and subsequent corona poling. Second order susceptibility of the polymer films as detd. by second harmonic generation (SHG) reached 5-27 pm/V, depending on chromophore concn. and prepn. conditions.
 IT 91204-49-8
 RL: PRP (Properties)
 (second order NLO properties of fluorine-contg. chromophores in polymer matrix and chromophore contg. polymers)
 RN 91204-49-8 CAPLUS
 CN Benzenamine, N,N-dimethyl-4-[4-[[4-(trifluoromethyl)phenyl]azo]phenyl]azo

] - (9CI) (CA INDEX NAME)



RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2002 ACS
AN 1998:808099 CAPLUS
DN 130:117068
TI Photobleaching characteristics and application for optical waveguide of polymer films containing .pi.-conjugated organic dyes
AU Shibata, Tomoaki; Hattori, Toshiaki; Onodera, Shinji; Kaino, Toshikuni
CS Institute for Chemical Reaction Science, Tohoku University, Katahira, Aoba-ku, Sendai-shi, 980-8577, Japan
SO Nippon Kagaku Kaishi (1998), (12), 831-836
CODEN: NKAKB8; ISSN: 0369-4577
PB Nippon Kagakkai
DT Journal
LA Japanese
AB PMMA films contg. 3 kinds of typical .pi.-conjugated org. dyes, a nitrone dye, a styryl dye, and an azobenzene dye, are irradiated by Xe lamp. Their photobleaching characteristics are studied and applications for optical polymer waveguides are discussed. For a few .mu.m-thick films fabricated by spin-coating, following 3 characteristics are experimented; (1) changes of UV-visible absorption, IR absorption and film thickness caused by photobleaching, (2) thermal reversibility of photobleached film, (3) refractive index changes induced by photobleaching. From the practical point for optical polymer waveguide fabrication, following 3 features are required; (1) photobleaching does not proceed under weak UV light with fluorescent light level, (2) the dye structure does not show thermal reversibility after photobleaching, and (3) enough refractive index difference for optical waveguides should be induced by photobleaching. Among 3 dyes, studied, PMMA film contg. azobenzene dye is revealed to be the best 1 for fabricating dye contg. optical polymer waveguides and bis-azobenzene dye attached PMMA film will be the most promising for the waveguides via photobleaching.
IT 160176-02-3
RL: MOA (Modifier or additive use); USES (Uses)
(3RDCVXY; photobleaching characteristics and application for optical waveguide of polymer films contg.)
RN 160176-02-3 CAPLUS
CN Propanedinitrile, [[4-[[4-[[4-[[ethyl(2-hydroxyethyl)amino]phenyl]azo]-2,6-dimethylphenyl]azo]phenyl]methylene]- (9CI) (CA INDEX NAME)

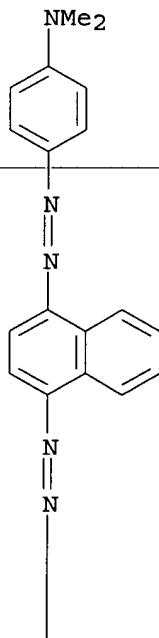


L7 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2002 ACS

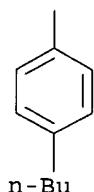
AN 1997:655032 CAPLUS
DN 127:353054
TI Liquid-crystal display element
IN Iwanaga, Hiroki; Naito, Katsuyuki
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

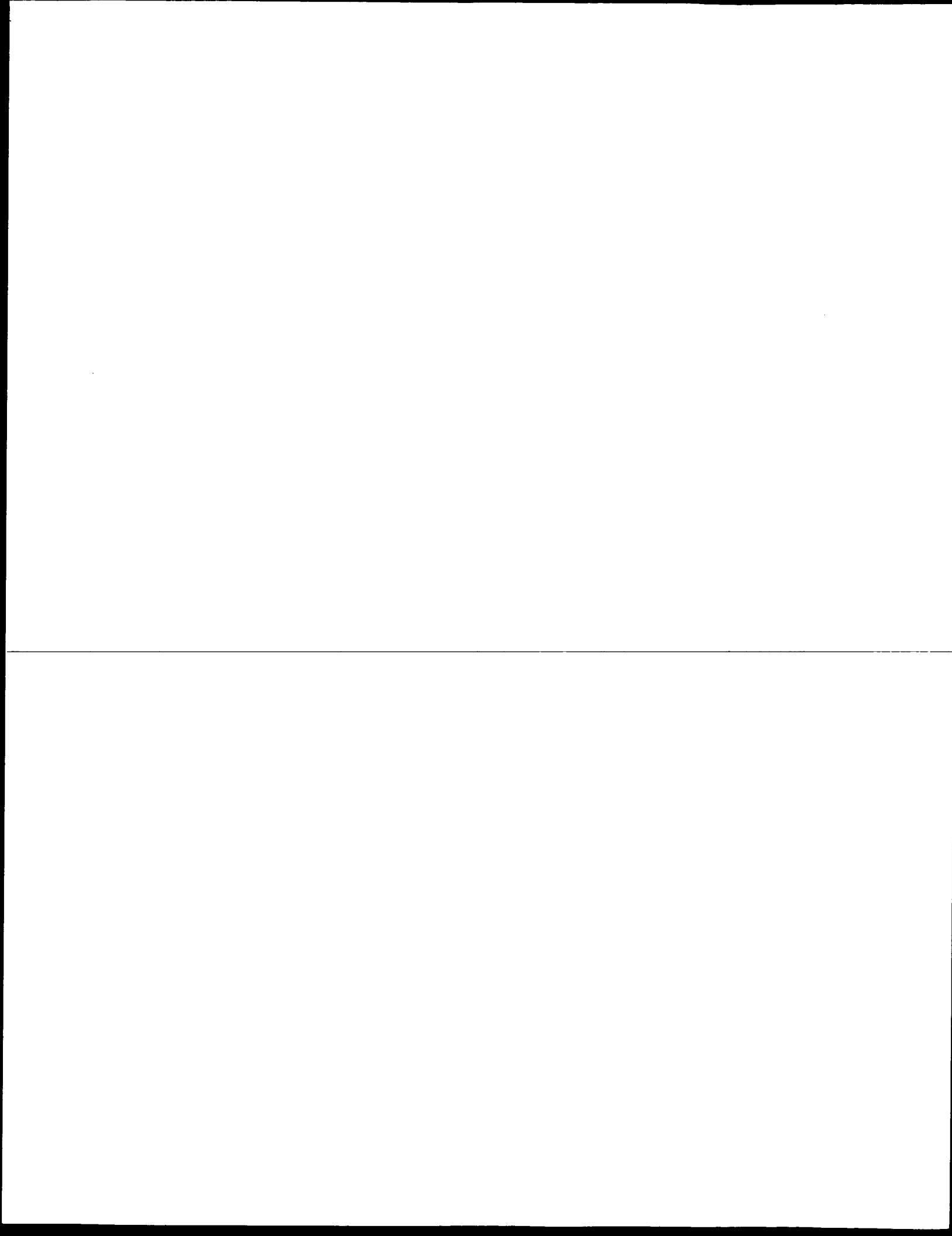
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09258272	A2	19971003	JP 1996-68408	19960325
AB	The liq.-crystal display element comprises a liq.-crystal layer which contains a liq.-crystal material, a dichroic fluorescent substance emitting blue fluorescence and a dichroic dye with a different type of dichroism from the fluorescent substance and is enclosed between a pair of substrates. Bright and clear color display is achieved.				
IT	78245-21-3, g239 RL: DEV (Device component use); USES (Uses) (liq.-crystal display element from)				
RN	78245-21-3 CAPLUS				
CN	Benzanamine, 4-[[4-[(4-butylphenyl)azo]-1-naphthalenyl]azo]-N,N-dimethyl- (9CI) (CA INDEX NAME)				

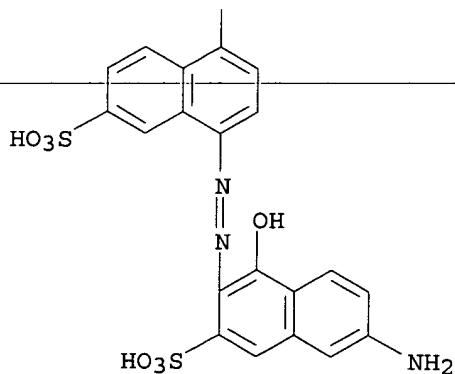
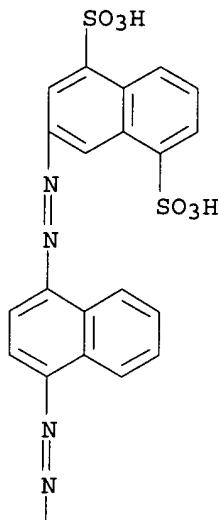
PAGE 1-A



PAGE 2-A







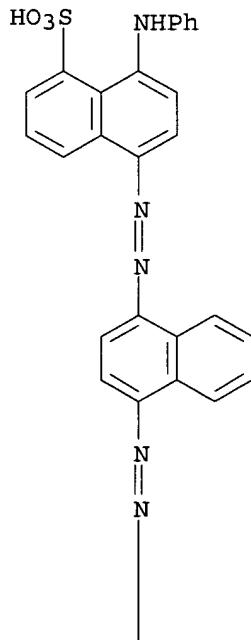
●4 Na

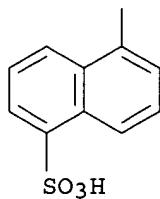
L7 ANSWER 10 OF 15 CAPLUS COPYRIGHT 2002 ACS
 AN 1995:541404 CAPLUS
 DN 122:283832
 TI Analogs of reporter groups as background reducers in hybridization assays
 IN Cubbage, Michael Lee; Bresser, Joel; Blick, Mark; Ju, Shyh Chen
 PA Aprogenex, Inc., USA
 SO PCT Int. Appl., 32 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 11

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	WO 9502699	A1	19950126	WO 1994-US467	19940114
	W: AT, AU, BB, BG, BR, BY, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CN 1084219	A	19940323	CN 1993-116558	19930717
	AU 9471354	A1	19950213	AU 1994-71354	19940114
PRAI	CN 1993-116558		19930717		
	IL 1993-106381		19930718		
	US 1992-915927		19920717		
	US 1992-916183		19920717		
	WO 1994-US467		19940114		
AB	Nonspecific background in in situ assays (cells or viruses) is reduced by use of an excess of reporter group analog which binds nonspecifically to the biol. entity in competitive equil. with the reporter group. The reporter groups may be fluorescent, chemiluminescent, or enzymic, and the assay method encompasses nucleic acid hybridizations. Thus, HIV assays in the H9 cell line with 39-mer hybridization probes labeled with FITC (fluorescein isocyanate) were improved by reducing background with aurintricarboxylic acid at 0.05 and 0.1% concn. Other FITC analogs (Acid Black 24, Basic Fuchsin, Eosin, Naphthol Blue Black, and Nile Blue) also competitively reduced the fluorescence background in isolated white blood cells. Similarly, when a nucleic acid probe linked to alk. phosphatase is used, the analog may be ovalbumin, catalase, aldolase, or .beta.-galactosidase.				
IT	3071-73-6, Acid Black 24 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (FITC analog; analogs of reporter groups as background reducers in hybridization assays)				
RN	3071-73-6 CAPLUS				
CN	1-Naphthalenesulfonic acid, 8-(phenylamino)-5-[[4-[(5-sulfo-1-naphthalenyl)azo]-1-naphthalenyl]azo]-, disodium salt (9CI) (CA INDEX NAME)				

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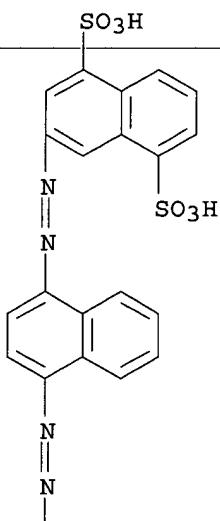
●2 Na

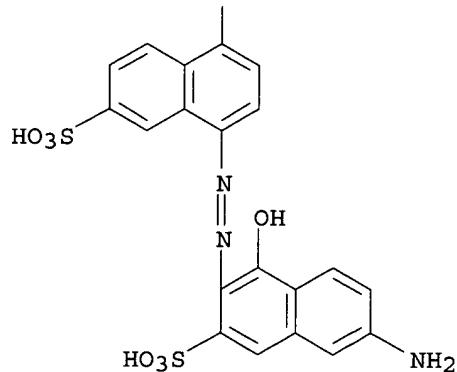
IT 4399-55-7, Direct Blue 71

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(reporter group analog; analogs of reporter groups as background
reducers in hybridization assays)

RN 4399-55-7 CAPLUS

CN 1,5-Naphthalenedisulfonic acid, 3-[[4-[[4-[(6-amino-1-hydroxy-3-sulfo-2-naphthalenyl)azo]-6-sulfo-1-naphthalenyl]azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)





● 4 Na

L7 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2002 ACS
AN 1989:203056 CAPLUS

DN 110:203056

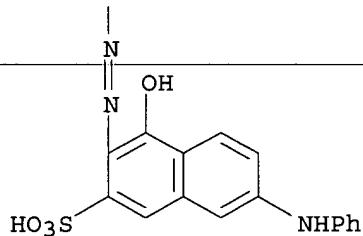
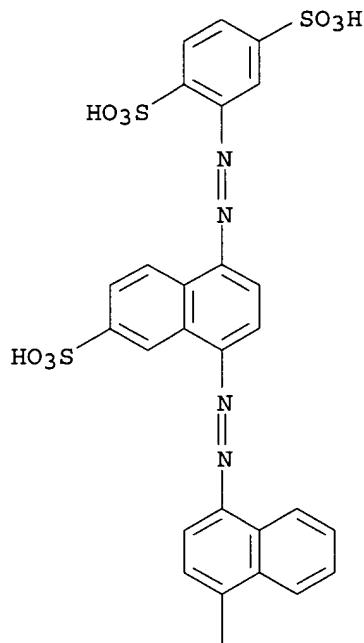
TI Thermal-transfer recording sheet for fluorescent images
IN Tsugawa, Hiroaki; Fukuoka, Shinya
PA Nippon Kayaku Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	JP 63319189	A2	19881227	JP 1987-154336	19870623	
AB	The title materials have thermally transferable layers contg. org. fluorescent pigments and waxes, with or without fluorescent brighteners. These materials give extra-clear images giving fluorescence by UV. Thus, 20 parts of 40% dispersion of red fluorescent pigment, prep'd. by emulsion polymn. of hexene-1 and maleic anhydride in the presence of 2% wt. C. I. 45170, 37% aq. emulsion of carnauba wax 54, 40% dispersion of paraffin wax 10, 46% dispersion of terpene phenols 11.5 parts and water were mixed, coated on polyester film, and dried to form a 6 g/m ² layer. The use of obtained sheet in thermal printer gave clear images with high transfer efficiency. Images on already printed surface did not hinder reading the background character images.					
IT	2503-73-3, C.I. 34200	RL: USES (Uses)	(fluorescent pigment contg. matrix polymer and, for thermal-transfer recording)			
RN	2503-73-3 CAPLUS	CN	1,4-Benzenedisulfonic acid, 2-[[4-[[4-[[1-hydroxy-6-(phenylamino)-3-sulfo-2-naphthalenyl]azo]-1-naphthalenyl]azo]-6-sulfo-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)			



• 4 Na

L7 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2002 ACS
AN 1986:438550 CAPLUS
DN 105:38550
TI Prediction of in situ fluorescence of histochemical reagents
using a structure-staining correlation procedure
AU Juarranz, A.; Horobin, R. W.; Proctor, G. B.
CS Dep. Anat. Cell Biol., Univ. Sheffield, Sheffield, S10 2TN, UK
SO Histochemistry (1986), 84(4-6), 426-31
CODEN: HCMYAL; ISSN: 0301-5564
DT Journal
LA English
AB A total of 90 acid, basic, and nonionic dyes were screened for fluorescent staining of various Carnoy fixed rat tissues. It was found that the fluorescence/nonfluorescence of a dye could be predicted using a conjugated bond no. (CBN) cut-off value. Thus, 90% of the dyes with CBNs of ≤ 29 were fluorescent, whereas 70% of the dyes whose CBNs exceeded 30 were nonfluorescent. The cut-off value was not influenced by

the charge, or the hydrophobic-hydrophilic character of the dye, although fluorescence was greatly influenced by the mode of fixation. The CBN cut-off value proved surprisingly robust. Thus, most fluorochromes found in the histochem. literature have small conjugated systems, with CBNs less than the cut-off value. This includes labels of Ig's, vital stains of neurons, and fluorescent Schiff reagents. Conversely, several dyes used to quench background autofluorescence have large conjugated systems, with CBNs substantially above the cut-off value.

IT 2503-73-3 5489-77-0 6661-42-3

33540-94-2

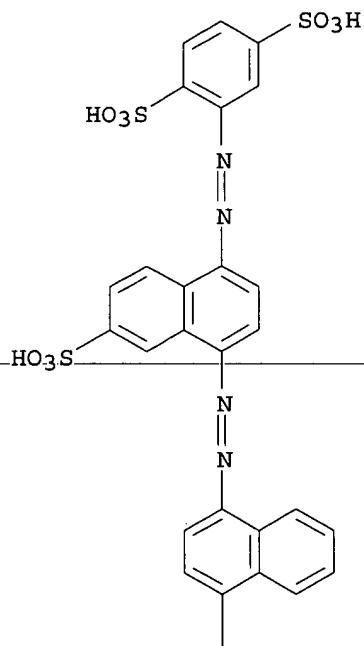
RL: ANST (Analytical study)

(fluorescent staining with, of animal tissues, structure-staining correlation procedure for prediction of)

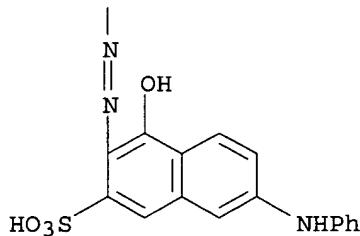
RN 2503-73-3 CAPLUS

CN 1,4-Benzenedisulfonic acid, 2-[[4-[[4-[[1-hydroxy-6-(phenylamino)-3-sulfo-2-naphthalenyl]azo]-1-naphthalenyl]azo]-6-sulfo-1-naphthalenyl]azo] -, tetrasodium salt (9CI) (CA INDEX NAME)

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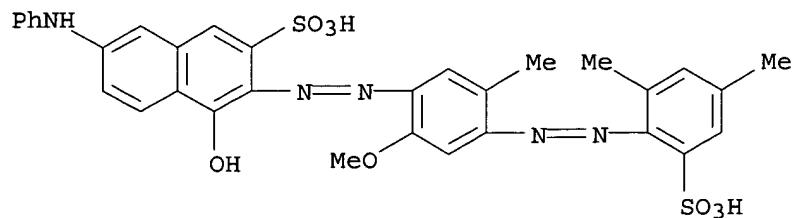


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RN 5489-77-0 CAPIUS

CN 2-Naphthalenesulfonic acid, 3-[[4-[(2,4-dimethyl-6-sulfophenyl)azo]-2-methoxy-5-methylphenyl]azo]-4-hydroxy-7-(phenylamino)-, disodium salt (9CI) (CA INDEX NAME)

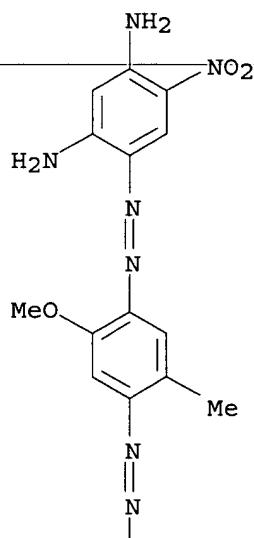


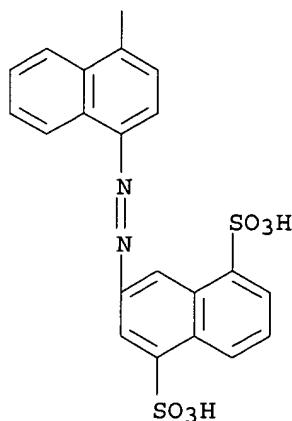
●2 Na

RN 6661-42-3 CAPIUS

CN 1,5-Naphthalenedisulfonic acid, 3-[[4-[[4-[(2,4-diamino-5-nitrophenyl)azo]-5-methoxy-2-methylphenyl]azo]-1-naphthalenyl]azo]-, disodium salt (9CI) (CA INDEX NAME)

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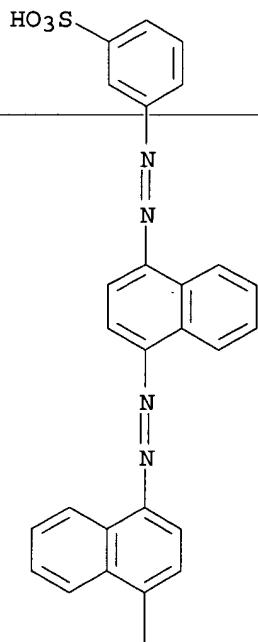


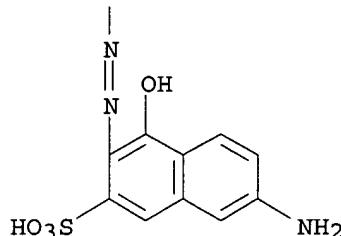


●2 Na

RN 33540-94-2 CAPLUS

CN 2-Naphthalenesulfonic acid, 7-amino-4-hydroxy-3-[[6(or 7)-sulfo-4-[[6(or 7)-sulfo-4-[(3-sulfophenyl)azo]-1-naphthalenyl]azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)



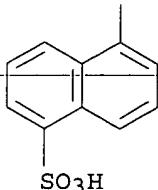
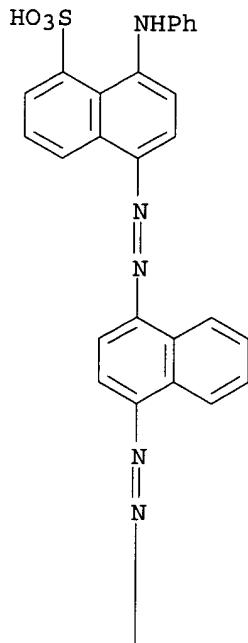


2 [D1-SO₃H]

●4 Na

L7 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2002 ACS
 AN 1967:459174 CAPLUS
 DN 67:59174
 TI **Fluorescence** of dyes in the infrared
 AU Ramsley, Alvin O.
 CS U.S. Army Natick Labs., Natick, Mass., USA
 SO Color Eng. (1967), 5(1), 20-4
 CODEN: CLEGA3
 DT Journal
 LA English
 AB A compilation with 26 references listing dyes which do or do not fluoresce
 in the ir region.

IT 3071-73-6
 RL: PRP (Properties)
 (fluorescence of)
 RN 3071-73-6 CAPLUS
 CN 1-Naphthalenesulfonic acid, 8-(phenylamino)-5-[[4-[(5-sulfo-1-naphthalenyl)azo]-1-naphthalenyl]azol]-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L7 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2002 ACS

AN 1965:44406 CAPLUS

DN 62:44406

OREF 62:7899e-h

TI Chromatographic separation of dyes

AU Baetoniu, Petre; Mircea, Coca; Diamandescu, Ecaterina

SO Ind. Usoara (Bucharest) (1964), 11(5), 245-9

DT Journal

LA Romanian

AB Four mixts. of dyes manufd. in Romania were sep'd. chromatographically. Each mixt. contained one direct dye, one acid dye, and one S dye, with the exception of the red group where parafuchsin was used in place of a S dye. The dyes were: Fast Direct blue L2R (I), Fast Acid Blue 5R (II), Sulfur Blue FBL (III), Brilliant Direct Red 4A (IV), Direct Red 6A Extra (V), parafuchsin (VI), Fast Direct Brown LMR (VII), Fast Acid Brown R (VIII), Sulfur Brown D (IX), Direct Black L (X), Fast Acid Black 2A (XI), and Sulfur Black PA (XII). A 0.5% aq. soln. of the dye mixt. was applied to Whatman No. 1 chromatographic paper; the amt. of soln. used for the spot was predetd. exptl. The best eluents were (a) 20:25:50:5

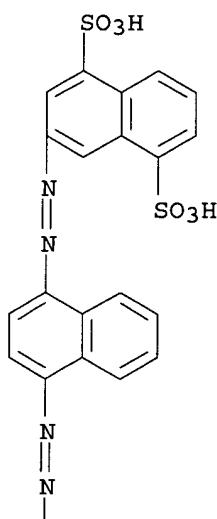
H₂O-EtOH-BuOH-HCO₂H; and (b) 30:50:20 H₂O-PrOH-NH₄OH. The chromatographic time of a and b was 6.5 hrs. at 20.degree.. The following R_f values for each dye were detd. (dye, R_f for a and b given): I, 0, 0.01; II, 0.42, 0.62; III, 0.11, 0.63; IV, 0, 0; V, 0.22, 0.77; VI, 0.91, 0.81; VII, 0.07, 0.02; VIII, 0.45, 0.21; IX, 0, 0; X, 0.09, 0.03; XI, 0.47, 0.50; XII, 0, 0. Except for VII, IX, X, and XII, the dyes could be sepd. from a mixt. From the blue group, only II could be sepd. by using a. For the reds, IV was easily sepd. by a and b; for brown, VIII was easily sepd. in 6-7 hrs. by using b; for black, XI was easily sepd. with both eluents in approx. 6-7 hrs. X and XII were sepd. by using a. Uv fluorescence analysis and various colored reagents were used to distinguish the spots when chromatograms of mixts. of many dyes of the same color and shade, but of different categories, were used. The behavior of dyes in the presence of HNO₃ and H₂SO₄ was studied. Thin-layer chromatography (250. μ .thick silica gel) was used instead of paper. After drying at 150.degree., the shades obtained when treated with acids disappeared. In spite of the similarity of results obtained in test tubes and by thin-layer chromatography, the latter is preferable in spite of its inconvenience in reproducibility. This method can be used to sep. dyes from the dyeing of leather, textiles, etc.

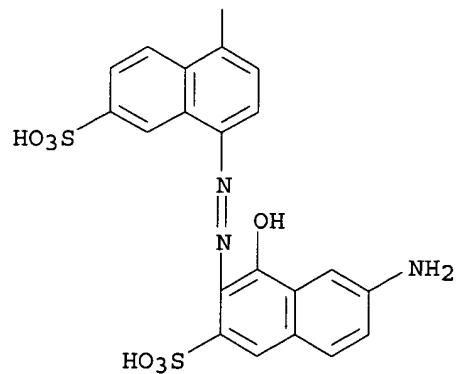
IT 3071-71-4, 1,5-Naphthalenedisulfonic acid, 3-[[4-[[4-[(7-amino-1-hydroxy-3-sulfo-2-naphthyl)azo]-6-sulfo-1-naphthyl]azo]-1-naphthyl]azo]-, tetrasodium salt 3071-73-6, C.I. Acid Black 24 3351-05-1, C.I. Acid Blue 113
(chromatography of)

RN 3071-71-4 CAPLUS

CN 1,5-Naphthalenedisulfonic acid, 3-[[4-[[4-[(7-amino-1-hydroxy-3-sulfo-2-naphthalenyl)azo]-6-sulfo-1-naphthalenyl]azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)

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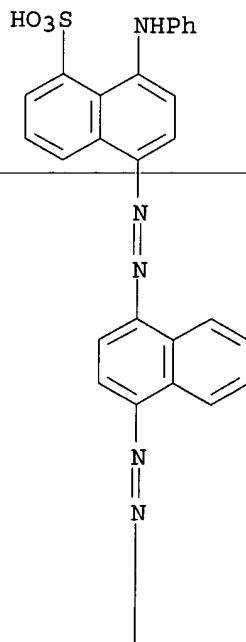




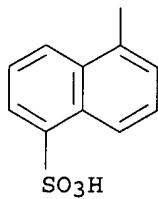
● 4 Na

RN 3071-73-6 CAPLUS

CN 1-Naphthalenesulfonic acid, 8-(phenylamino)-5-[[4-[(5-sulfo-1-naphthalenyl)azo]-1-naphthalenyl]azo], disodium salt (9CI) (CA INDEX NAME)



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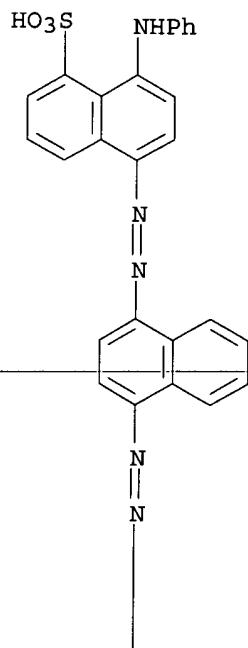


●2 Na

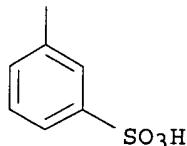
RN 3351-05-1 CAPLUS

CN 1-Naphthalenesulfonic acid, 8-(phenylamino)-5-[[4-[(3-sulfophenyl)azo]-1-naphthalenyl]azo]-, disodium salt (9CI) (CA INDEX NAME)

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PAGE 2-A

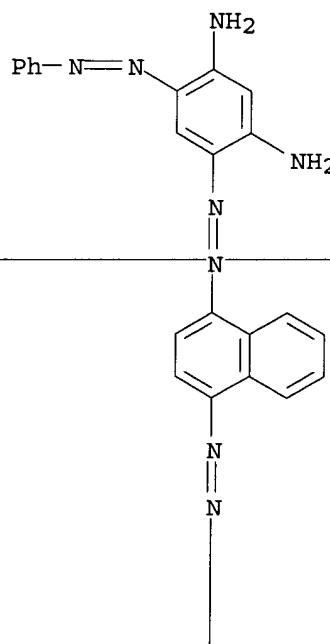


●2 Na

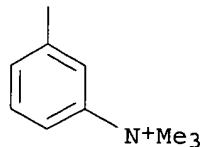
L7 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2002 ACS
AN 1964:421659 CAPLUS

DN 61:21659
 OREF 61:3698e
 TI Determination of cationic dyes
 AU Schiffner, Rudolf; Borrmeister, Bodo
 CS Deut. Akad. Wiss., Berlin
 SO Faserforsch. Textiltech. (1964), 15(5), 211-14
 DT Journal
 LA Unavailable
 AB Many cationic dyes (I) can be detd. by titrating a dil. soln., at pH 4.7 (N AcOH-AcONa buffer), with a 3 g./l. soln. of Blancophor G Extra High Conc. (II), a com. fluorescent brightener. I reacts with II to form insol. products, with simultaneous extinction of the fluorescence of II. End point is indicated by the appearance of permanent fluorescence owing to excess II. The method is accurate to within .+- .2-3%.
 IT 6054-43-9, Ammonium, [m-[[4-[[2,4-diamino-5-(phenylazo)phenyl]azo]-1-naphthyl]azo]phenyl]trimethyl, chloride (detn. of)
 RN 6054-43-9 CAPLUS
 CN Benzenaminium, 3-[[4-[[2,4-diamino-5-(phenylazo)phenyl]azo]-1-naphthalenyl]azo]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)

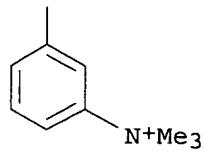
PAGE 1-A



PAGE 2-A



● Cl⁻



● Cl^-

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FILE 'HOME' ENTERED AT 15:07:25 ON 04 NOV 2002

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COST IN U.S. DOLLARS	ENTRY	SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 15:07:37 ON 04 NOV 2002
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STRUCTURE FILE UPDATES: 3 NOV 2002 HIGHEST RN 469858-87-5
DICTIONARY FILE UPDATES: 3 NOV 2002 HIGHEST RN 469858-87-5

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when
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Crossover limits have been increased. See HELP CROSSOVER for details.

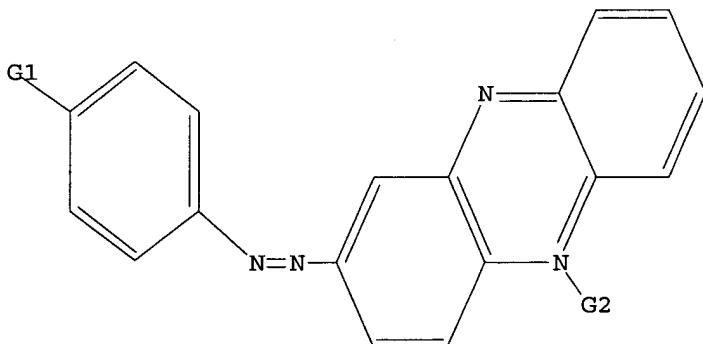
Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

*** YOU HAVE NEW MAIL ***

=>
Uploading 09942342.str

L1 STRUCTURE uploaded

=> d 11
L1 HAS NO ANSWERS
L1 STR



G1 C,N

G2 Cb,Cy,Hy

Structure attributes must be viewed using STN Express query preparation.

=> s l1 full
FULL SEARCH INITIATED 15:08:07 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 123 TO ITERATE

100.0% PROCESSED 123 ITERATIONS
SEARCH TIME: 00.00.02

0 ANSWERS

L2 0 SEA SSS FUL L1

=>

FILE 'HOME' ENTERED AT 15:07:25 ON 04 NOV 2002

=> file reg		SINCE FILE	TOTAL
COST IN U.S. DOLLARS		ENTRY	SESSION
FULL ESTIMATED COST		0.21	0.21

FILE 'REGISTRY' ENTERED AT 15:07:37 ON 04 NOV 2002
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 3 NOV 2002 HIGHEST RN 469858-87-5
DICTIONARY FILE UPDATES: 3 NOV 2002 HIGHEST RN 469858-87-5

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when
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Crossover limits have been increased. See HELP CROSSOVER for details.

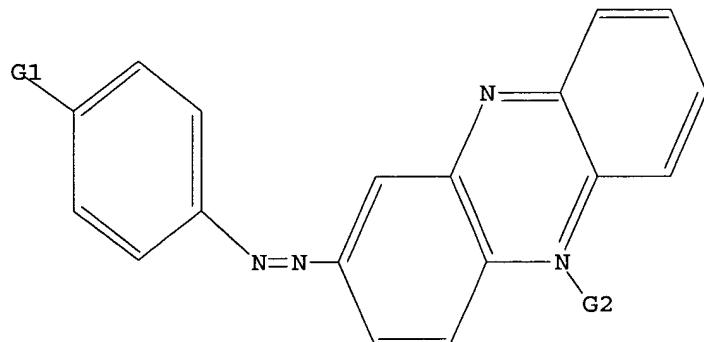
Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

*** YOU HAVE NEW MAIL ***

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L1 STRUCTURE uploaded

=> d 11
L1 HAS NO ANSWERS
L1 STR



G1 C,N

G2 Cb,Cy,Hy

Structure attributes must be viewed using STN Express query preparation.

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=> s 11 full
FULL SEARCH INITIATED 15:08:07 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 123 TO ITERATE
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100.0% PROCESSED 123 ITERATIONS
SEARCH TIME: 00.00.02
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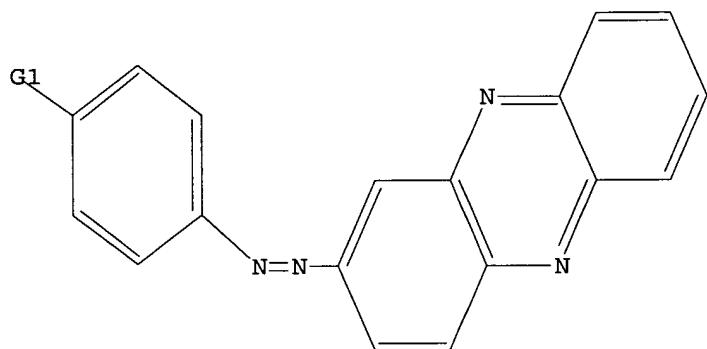
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0 ANSWERS
```

```
L2 0 SEA SSS FUL L1
```

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L3 STRUCTURE UPLOADED
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```
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L3 HAS NO ANSWERS
L3 STR
```



```
G1 C,N
```

```
G2-Cb,Cy,Hy
```

```
Structure attributes must be viewed using STN Express query preparation.
```

```
=> s 13 full
FULL SEARCH INITIATED 15:09:02 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 123 TO ITERATE
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100.0% PROCESSED 123 ITERATIONS
SEARCH TIME: 00.00.01
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```
88 ANSWERS
```

```
L4 88 SEA SSS FUL L3
```

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=> file caplus
COST IN U.S. DOLLARS
FULL ESTIMATED COST
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SINCE FILE ENTRY	TOTAL SESSION
280.94	281.15

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FILE LAST UPDATED: 3 Nov 2002 (20021103/ED)

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=> s 14
L5      246 L4

=> s 15 and fluorescen?
      330076 FLUORESCEN?
L6      11 L5 AND FLUORESCEN?

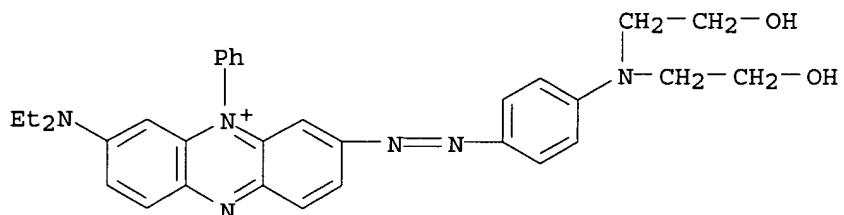
=> d 16 bib abs hitstr 1-11

L6      ANSWER 1 OF 11 CAPLUS COPYRIGHT 2002 ACS
AN      2001:833569 CAPLUS
DN      135:368945
TI      Synthesis and methods for dark quencher probes for donor-acceptor energy transfer
IN      Cook, Ronald M.; Lyttle, Matt; Dick, Daren
PA      Biosearch Technologies, Inc., USA
SO      PCT_Int_Appl., 95 pp.
      CODEN: PIXXD2
DT      Patent
LA      English
FAN.CNT 1
      PATENT NO.      KIND   DATE      APPLICATION NO.    DATE
-----  -----  -----  -----
PI      WO 2001086001      A1  20011115      WO 2001-US15082  20010508
      W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
          CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
          GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
          LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
          RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US,
          UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
      RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
          DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
          BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
PRAI US 2000-567863      A  20000509
OS      MARPAT 135:368945
AB      The invention concerns a family of quenchers of excited state energy that are substantially non-fluorescent, termed "Black Hole Quenchers" (BHQS). The quenchers of the invention remedy many of the deficiencies of currently utilized dark quenchers, probes assembled using these quenchers and methods using such quenchers and probes. Further, the dark quenchers are functionalized to allow their rapid attachment to probe that can be engineered to have a desired light absorption profile. The provision of this class of dark quenchers represents a substantial improvement in the design of probes incorporating dark quenchers and methods using such probes. Also provided are methods of using the BHQS, synthesis of such probes incorporating the BHQS and methods of using the probes.
IT      374592-00-4DP, conjugates with nucleotides 374592-03-7P
```

RL: ARG (Analytical reagent use); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); PROC (Process); USES (Uses)
(Synthesis and methods for dark quencher probes for donor-acceptor energy transfer)

RN 374592-00-4 CAPLUS

CN Phenazinium, 3-[[4-[bis(2-hydroxyethyl)amino]phenyl]azo]-7-(diethylamino)-5-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

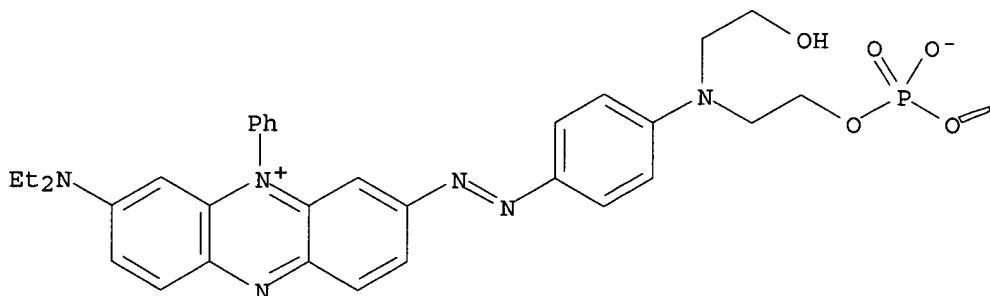
RN 374592-03-7 CAPLUS

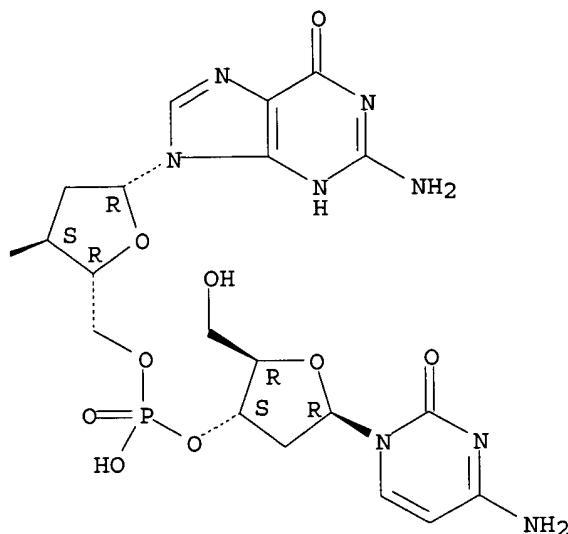
CN 3'-Guanylic acid, 2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-, 3'-[[2-[[4-[[8-(diethylamino)-10-phenylphenazinium-2-yl]azo]phenyl](2-hydroxyethyl)amino]ethyl] ester, inner salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

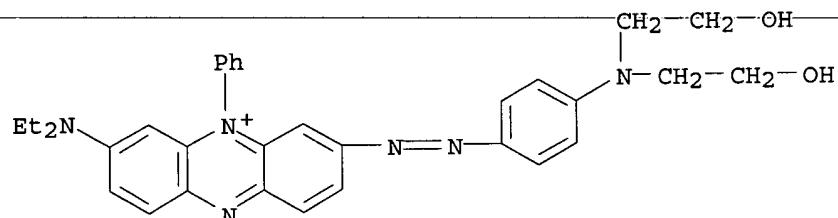
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PAGE 1-A



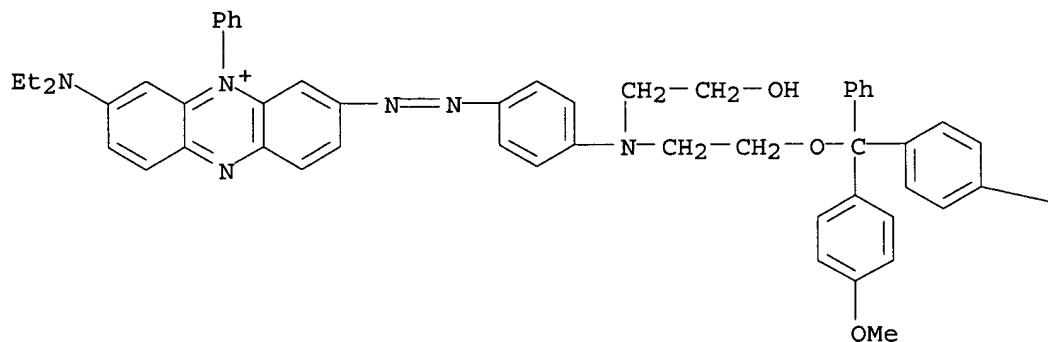


IT 374592-00-4P 374592-01-5P 374592-02-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (Synthesis and methods for dark quencher probes for donor-acceptor
 energy transfer)
 RN 374592-00-4 CAPLUS
 CN Phenazinium, 3-[[4-[bis(2-hydroxyethyl)amino]phenyl]azo]-7-(diethylamino)-
 5-phenyl-, chloride (9CI) (CA INDEX NAME)



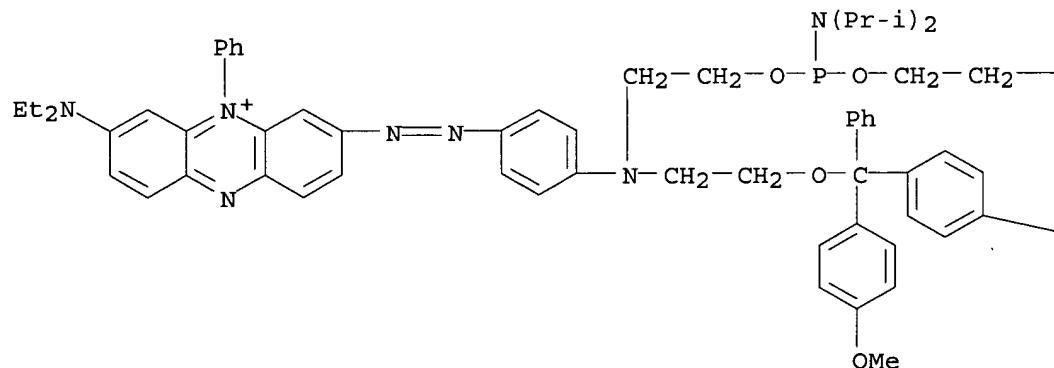
● Cl⁻

RN 374592-01-5 CAPLUS
 CN Phenazinium, 3-[[4-[[2-[bis(4-methoxyphenyl)phenylmethoxy]ethyl](2-
 hydroxyethyl)amino]phenyl]azo]-7-(diethylamino)-5-phenyl-, chloride (9CI)
 (CA INDEX NAME)

● Cl⁻

—OMe

RN 374592-02-6 CAPLUS
 CN Phenazinium, 3-[{4-[{2-[bis(4-methoxyphenyl)phenylmethoxy]ethyl}[2-[[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]oxyl]ethyl]amino]phenyl]azo]-7-(diethylamino)-5-phenyl-, chloride (9CI) (CA INDEX NAME)

● Cl⁻

— CN

— OMe

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2002 ACS

AN 1994:81314 CAPLUS

DN 120:81314

TI Methanol fuel containing flame luminosity agent

IN Kiovsky, Thomas E.; Clark, Wendy L.

PA Standard Oil Co., USA

SO U.S., 5 pp.

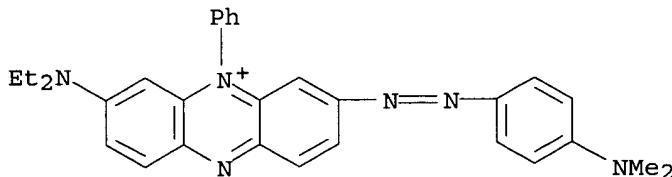
CODEN: USXXAM

DT Patent

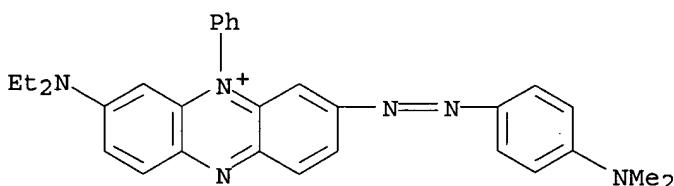
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5266080	A	~ 19931130	US 1989-419681	19891011
AB The flame luminosity of a methanol fuel is appreciably enhanced by the addn. of .gtoreq.1 flame luminosity enhancing agent selected from the group consisting of azine dyes (e.g., Safranine O, Janus Green B, Azure B, Toluidine Blue, and Methylene Green), triarylmethane dyes (e.g., Patent Blue VF, Guinea Green B, Light Green SF Yellowish, Lissamine Green B, and Methyl green), fluorescein dyes (e.g., Fluorescein, Me Eosin, and Rose Bengal), imine dyes (e.g., Auromine O), and anthraquinone dyes (e.g., Disperse Blue 14), said dye excluding any metal component whose combustion product(s) tend to cause excessive wear in an engine operated with the fuel compn. or tend to significantly interfere with normal operation of such engine or any of its assocd. systems. The flame luminosity enhancing agent is effective at a low concn. and produces a pale to bright orange flame which is easily visible and thus safer than the practically non-luminous methanol flame.					
IT 2869-83-2, Janus Green B RL: MSC (Miscellaneous) (dyes as flame luminosity agents for methanol fuel)					
RN 2869-83-2 CAPLUS					
CN Phenazinium, 3-(diethylamino)-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)					



L6 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2002 ACS
 AN 1991:467772 CAPLUS
 DN 115:67772
 TI **Fluorescent** markers for hypoxic cells: a study of novel heterocyclic compounds that undergo bioreductive binding
 AU Hodgkiss, R. J.; Begg, A. C.; Middleton, R. W.; Parrick, J.; Stratford, M. R. L.; Wardman, P.; Wilson, G. D.
 CS Gray Lab. Cancer Res., Mt. Vernon Hosp., Northwood/Middlesex, HA6 2JR, UK
 SO Biochemical Pharmacology (1991), 41(4), 533-41
 CODEN: BCPCA6; ISSN: 0006-2952
 DT Journal
 LA English
 AB The bioreductive metab. and binding of nitroarom. compds. has been suggested as a method for the identification of hypoxic tumor cells. Bound metabolites of suitable nitroaryl compds. (and some other reducible arom. compds.) may fluoresce, offering an alternative to radiolabeling or NMR, etc., as a diagnostic method. In this study the synthesis of some heteroarom. nitro compds. is given together with the results obtained from testing of these and other mainly nitro arom. compds. in vitro as potential bioreductive **fluorescent** probes for hypoxic cells in tumors. Compds. were incubated with oxygenated or hypoxic mammalian cell suspensions for various times before evaluation of the cellular **fluorescence** from bioreductive metabolites by **fluorescence** microscopy and flow cytometry. Among those compds. yielding **fluorescent** metabolites in cells, considerable variation in hypoxic-to-oxic differential **fluorescence** was obsd. The in vitro mammalian cell test system showed several of the compds. to be sufficiently promising to merit further investigation in vivo.
 IT 2869-83-2
 RL: ANST (Analytical study)
 (**fluorescent** marker, for hypoxic tumor cells)
 RN 2869-83-2 CAPLUS
 CN Phenazinium, 3-(diethylamino)-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L6 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2002 ACS
 AN 1990:558611 CAPLUS
 DN 113:158611
 TI Latex nanosphere delivery system (LNDS): novel nanometer-sized carriers of **fluorescent** dyes and active agents selectively target neuronal subpopulations via uptake and retrograde transport
 AU Madison, Roger; Macklis, Jeffrey D.; Thies, Curt
 CS Med. Cent., Duke Univ., Durham, NC, 27710, USA
 SO Brain Research (1990), 522(1), 90-8
 CODEN: BRREAP; ISSN: 0006-8993
 DT Journal
 LA English
 AB A wide range of latex particles are described which are capable of

carrying high concns. of **fluorescent dyes**, drugs, and photoactive agents selectively to subpopulations of neurons *in vitro* and *in vivo*. Particle size, charge, and concn. were all found to influence uptake into cultured neurons or retrograde transport *in vivo*. Chromophore loadings of >14% (wt./wt.) were obtained. Incorporation of a photoactivated dye (chlorin e6) into the polymer did not compromise the ability of the dye to produce singlet oxygen following light exposure. This unique family of latex particles had as the latex nanosphere delivery system (LNDS). The LNDS will be useful for studies of neuroanatomy and nervous system development, as well as more general areas of biomedical research where it is desirable to selectively label subpopulations of cells. The LNDS also offers a means of providing targeted delivery of drugs or photoactive agents to selected subpopulations of cells; this will allow experimentation not currently possible using any existent methodol.

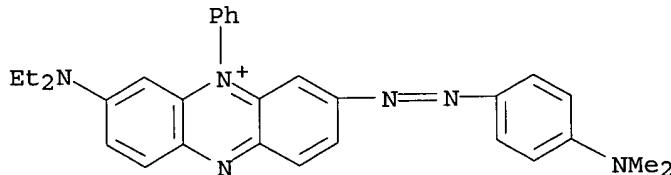
IT 2869-83-2, Janus green B 4618-88-6, Janus green

RL: BIOL (Biological study)

(polymer nanospheres contg. conjugated lectins and, for targeting to neuronal subpopulations via uptake and retrograde transport)

RN 2869-83-2 CAPLUS

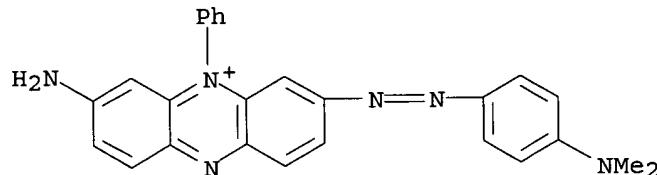
CN Phenazinium, 3-(diethylamino)-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

RN 4618-88-6 CAPLUS

CN Phenazinium, 3-amino-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L6 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2002 ACS

AN 1990:494134 CAPLUS

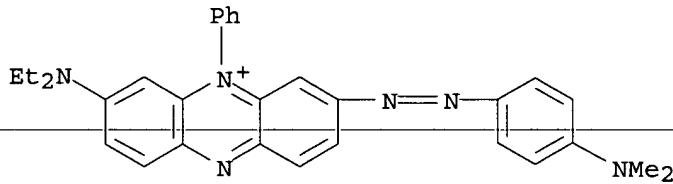
DN 113:94134

TI Interaction of molecular probes with living cells and tissues. Part 2. A structure-activity analysis of mitochondrial staining by cationic probes, and a discussion of the synergistic nature of image-based and biochemical approaches

AU Rashid, F.; Horobin, R. W.

CS Dep. Biomed. Sci., Univ. Sheffield, S10 2TN, UK

SO Histochemistry (1990), 94(3), 303-8
 CODEN: HCMYAL; ISSN: 0301-5564
 DT Journal
 LA English
 AB Cultured rat fibroblasts were exposed to 41 cationic **fluorescent**
 probes of very varied hydrophilicity/lipophilicity. Outcome of probe-cell
 interaction fell into 1 of the following categories: probe failed to enter
 the cells; probe accumulated on cell surfaces; probe accumulated in
 mitochondria, and/or in other intracellular regions. The observations
 were analyzed usnig a Simplistic Chinese Box (SCB) approach, and the
 following conclusions were reached. It was the hydrophilic probes which
 failed to enter cells, whereas extremely lipophilic probes were retained
 on the cell surfaces. Only the slightly lipophilic cationic probes were
 permeant, and accumulated in mitochondria. Using the probes log P values
 to model hydrophilicity/lipophilicity, effective cationic mitochondrial
 stains can be specified numerically so: $0 < \log P_{probe} < +5$. This SCB
 model was used to rationalize a variety of earlier observations on the
 action of mitochondrial probes. The applicability of the SCB approach to
 integrate image-based and biochem. investigations was demonstrated by
 using the action of chlorpromazine on mitochondrial action as a case
 example.
 IT 2869-83-2, Janus Green B
 RL: ANST (Analytical study)
 (staining with, of mitochondria, structure-activity anal. of)
 RN 2869-83-2 CAPLUS
 CN Phenazinium, 3-(diethylamino)-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-,
 chloride (9CI) (CA INDEX NAME)

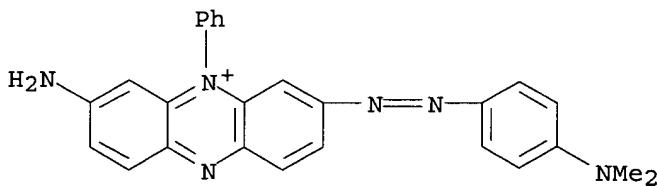


● Cl⁻

L6 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2002 ACS
 AN 1990:474185 CAPLUS
 DN 113:74185
 TI Displacement of surface-bound cationic dyes: a method for the rapid and
 semi-quantitative assay of metal binding to microbial surfaces
 AU Savvaidis, Ioannis; Nobar, Ali; Hughes, Martin N.; Poole, Robert K.
 CS Microbial Physiol. Res. Group, King's Coll. London, London, UK
 SO Journal of Microbiological Methods (1990), 11(2), 95-106
 CODEN: JMIMDQ; ISSN: 0167-7012
 DT Journal
 LA English
 AB A method is described for the rapid and semiquant. assessment of the
 extent of metal ion binding to microbial cell surfaces. The technique is
 based on the affinity of such surfaces, which are predominantly anionic
 (by virtue of carboxyl, phosphate, and other exposed groups), for binding
 cationic dyes, and on the ability of exogenous metal ions in soln. to
 compete with and reverse dye binding. Thus, Janus Green bound to intact
 cells of *Pseudomonas cepacia* is readily displaced by 1 of several metal
 ions. For Cu, dye displacement is rapid (<1 min) and is a function of the
 amt. of bound metal (as detd. by at. absorption spectroscopy) at added Cu
 concns. up to 2 mM. The method is applicable to other gram-neg. and

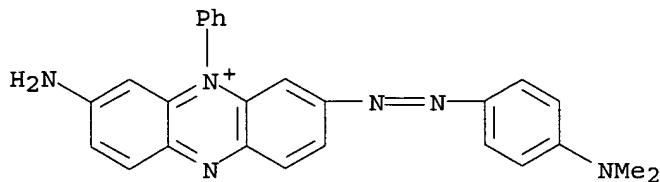
gram-pos. bacteria and to yeast. In general, the order of efficacy of metal ions in displacing dye is Pb²⁺ > Cd²⁺ > Cu²⁺ > Ni²⁺ > Co²⁺ and, for the transition metals, is in accord with the Irving-Williams series. The method is readily scaled down and allows measurement of metal-induced dye displacement from cells in a single colony from solid medium. The advantages and limitations of the procedure are discussed and its wide applicability in biosorption studies proposed.

IT 4618-88-6, Janus Green
RL: ANST (Analytical study)
(metal binding to microbial surfaces detn. by displacement of surface-bound)
RN 4618-88-6 CAPLUS
CN Phenazinium, 3-amino-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L6 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2002 ACS
AN 1987:435916 CAPLUS
DN 107:35916
TI **Fluorescent probes that stain living nerve terminals**
AU Magrassi, Lorenzo; Purves, Dale; Lichtman, Jeff W.
CS Sch. Med., Washington Univ., St. Louis, MO, 63110, USA
SO Journal of Neuroscience (1987), 7(4), 1207-14
CODEN: JNRSDS; ISSN: 0270-6474
DT Journal
LA English
AB The efficacy was evaluated of 18 cationic mitochondrial dyes that, as a class, show some ability to stain living nerve terminals. Several of these agents provide excellent staining of neuromuscular junctions in a wide range of species. More detailed studies of the most effective of these dyes [4-(4-diethylaminostyryl)-N-methylpyridinium iodide (4-Di-2-ASP)] indicate that it has no lasting effect on the structure or function of motor nerve terminals. As demonstrated in the accompanying paper (Lichtman, J. W. et al., 1987; see also Lichtman, J. W. et al., 1986), 4-Di-2-ASP can therefore be used to follow the configuration of identified motor terminals over arbitrarily long intervals.
IT 4618-88-6, Janus green
RL: ANST (Analytical study)
(staining by, of living nerve terminals)
RN 4618-88-6 CAPLUS
CN Phenazinium, 3-amino-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L6 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2002 ACS

AN 1986:438550 CAPLUS

DN 105:38550

TI Prediction of *in situ* fluorescence of histochemical reagents using a structure-staining correlation procedure

AU Juarranz, A.; Horobin, R. W.; Proctor, G. B.

CS Dep. Anat. Cell Biol., Univ. Sheffield, Sheffield, S10 2TN, UK

SO Histochemistry (1986), 84(4-6), 426-31

CODEN: HCMYAL; ISSN: 0301-5564

DT Journal

LA English

AB A total of 90 acid, basic, and nonionic dyes were screened for fluorescent staining of various Carnoy fixed rat tissues. It was found that the fluorescence/nonfluorescence of a dye could be predicted using a conjugated bond no. (CBN) cut-off value. Thus, 90% of the dyes with CBNs of ≤ 29 were fluorescent, whereas 70% of the dyes whose CBNs exceeded 30 were nonfluorescent. The cut-off value was not influenced by the charge, or the hydrophobic-hydrophilic character of the dye, although fluorescence was greatly influenced by the mode of fixation. The CBN cut-off value proved surprisingly robust.

Thus, most fluorochromes found in the histochem. literature have small conjugated systems, with CBNs less than the cut-off value. This includes labels of Ig's, vital stains of neurons, and fluorescent Schiff reagents. Conversely, several dyes used to quench background autofluorescence have large conjugated systems, with CBNs substantially above the cut-off value.

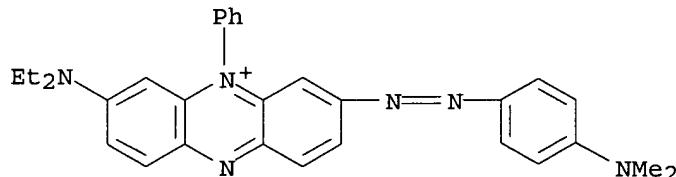
IT 2869-83-2

RL: ANST (Analytical study)

(fluorescent staining with, of animal tissues,
structure-staining correlation procedure for prediction of)

RN 2869-83-2 CAPLUS

CN Phenazinium, 3-(diethylamino)-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)

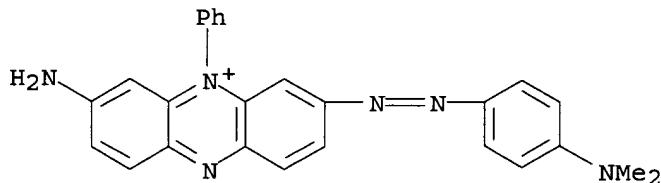


● Cl⁻

L6 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2002 ACS

AN 1977:1521 CAPLUS
 DN 86:1521
 TI Purification and properties of soluble hydrogenase from Alcaligenes eutrophus H 16
 AU Schneider, Klaus; Schlegel, Hans G.
 CS Inst. Mikrobiol., Ges. Strahlen- und Umweltforsch. m.b.H. Muenchen, Goettingen, Ger.
 SO Biochim. Biophys. Acta (1976), 452(1), 66-80
 CODEN: BBACAO
 DT Journal
 LA English
 AB The sol. hydrogenase (EC 1.12.1.2) from A. eutrophus H 16 was purified 68-fold with a yield of 20% and a final specific activity (NAD redn.) of apprx. 54 .mu.mole H oxidized/min/mg protein. The enzyme was homogeneous by polyacrylamide gel electrophoresis. Its mol. wt. and isoelec. point were 205,000 and 4.85, resp. The oxidized hydrogenase was of high stability but not reactive. Reductive activation of the enzyme by H₂ in the presence of catalytic amounts of NADH, or by reducing agents caused the hydrogenase to become unstable. The purified enzyme, in its active state, reduced NAD, FMN, FAD, menaquinone, ubiquinone, cytochrome c, methylene blue, methyl viologen, PhCH₂ viologen, phenazine methosulfate, Janus green, 2,6-dichlorophenolindophenol, ferricyanide, and O₂. In addn. to hydrogenase activity, the enzyme exhibited also diaphorase and NAD(P)H oxidase activity. The reversibility of hydrogenase function was demonstrated. With respect to H₂ as substrate, hydrogenase showed neg. cooperativity; the Hill coeff. was n = 0.4. The apparent Km value for H₂ was 0.037 mM. The absorption spectrum of hydrogenase was typical for nonheme Fe proteins, showing maxima at 380 and 420 nm. A flavine component was extd. from native hydrogenase characterized by its absorption bands at 375 and 447 nm and a strong fluorescence at 526 nm.
 IT 4618-88-6
 RL: RCT (Reactant)
 (reaction of, with hydrogenase)

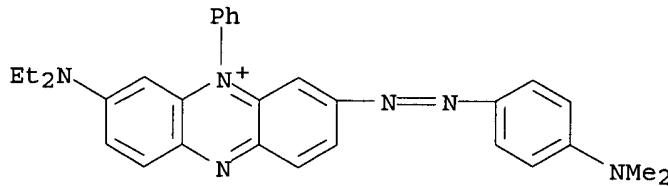
RN 4618-88-6 CAPLUS
 CN Phenazinium, 3-amino-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

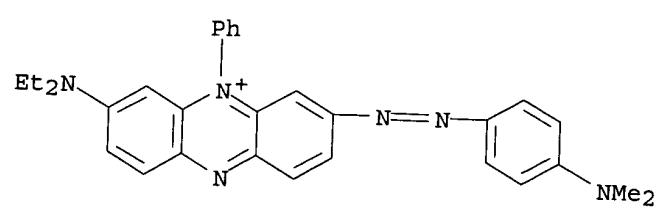
L6 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2002 ACS
 AN 1974:487501 CAPLUS
 DN 81:87501
 TI Dye-induced fluorescence of tumor cells. Photochemical action spectra
 AU Bastos, A. L.; Marques, D.; Affra, M. A.
 CS Lab. Citol. Calouste Gulbenkian, Inst. Portugues Oncol. Francisco Gentil, Lisbon, Port.
 SO Histochem. J. (1974), 6(3), 237-43
 CODEN: HISJAE
 DT Journal

LA English
 AB Sarcoma 37 ascitic tumor cells obtained from white mice were used after 6, 7, or 8 days i.p. cell transplantation, living or fixed, stained with 0.005% Nile Blue sulfate in 1% H₂SO₄, 0.02% aq. Azure II, or 0.01% wt/vol. Janus Green B in 86% NaCl soln. A microfluorometer equipped with a photomultiplier was used and a high pressure Xe burner was used as a light source. To obtain the action spectra, each prepn. was exposed to the selected wavelength during 20 sec and then a reading of the fluorescence intensity was taken. With one exception all the plots obtained showed a marked increase in fluorescence intensity on irradn. The exception was the Nile Blue-stained supravital prepn. which displayed a fading of fluorescence with exposure to light that was particularly pronounced, at .apprx.365 nm. The action spectra of the sarcoma 37 ascitic tumor cells, fixed and living, stained with the oxazine dye Nile Blue, the thiazinedye Azure II, and the monoazo dye Janus Green B, display maxima in the 365-400 nm region. The action spectra peaks do not coincide with the absorption maxima of the dyes in soln.
 IT 2869-83-2
 RL: ANST (Analytical study)
 (fluorescence of tumor cells induced by, action spectrum of)
 RN 2869-83-2 CAPLUS
 CN Phenazinium, 3-(diethylamino)-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L6 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2002 ACS
 AN 1967:25914 CAPLUS
 DN 66:25914
 TI Ozone-induced chemiluminescence of organic compounds
 AU Bowman, Robert L.; Alexander, Nelson
 CS Natl. Heart Inst., Bethesda, Md., USA
 SO Science (Washington, D. C.) (1966), 154(3755), 1454-6
 CODEN: SCIEAS
 DT Journal
 LA English
 AB Chemiluminescence was observed when org. compds. in a dry state, as well as in org. solvents, were exposed to O₃ in O₂. The peak intensity of the light emission is related quant. to the amt. of compd. Many compds. can be identified by this method, and some are listed. Sensitivity of detection approximates that of fluorescence methods and extends to less than nanog. quantities for some compds. O₃-induced chemiluminescence of compds. in Me₂CO soln. was less sensitive than it was in the dry analysis.
 IT 2869-83-2
 RL: ANT (Analyte); ANST (Analytical study)
 (detection of, by chemiluminescence in presence of ozone)
 RN 2869-83-2 CAPLUS
 CN Phenazinium, 3-(diethylamino)-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)



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